Seth B. Darling

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Education

The University of Chicago, Chicago, IL
Ph.D. in Physical Chemistry (2002)
Thesis: Rational Nanoscale Control of Interfacial Structure and Dynamics

Haverford College, Haverford, PA
B.A. in Chemistry and Astronomy (1997)
Honors: Honors from chemistry department
High honors from astronomy/physics department

Professional Development

Strategic Laboratory Leadership Program, UChicago Argonne, LLC (2010)
Developed by the Univ. of Chicago Booth School of Business Executive Education Office

Leadership Development Workshop, American Chemical Society (2010)

Employment

Argonne National Laboratory
Scientist, Center for Nanoscale Materials (2010–present)
Strategy Leader, Solar Energy Systems (2009–present)
Assistant Scientist, Center for Nanoscale Materials (2006–2010)
Glenn Seaborg Argonne Scholar, Materials Science Division (2003–2006)
Postdoctoral Fellow, UC-ANL Consortium for Nanoscience Research (2003–2006)
Research Fellow, UC-ANL Consortium for Nanoscience Research (2002–2003)

The University of Chicago
Fellow, Institute for Molecular Engineering (2013–present)
Joint Staff Appointee, Institute for Molecular Engineering (2012–2013)
Graduate Research Assistant, Sibener Group (1997–2002)
Senior Outreach Coordinator, NSF-MRSEC (1999–2002)
Laboratory Assistant, Physical Chemistry Lab (1998)
Teaching Assistant, General Chemistry (1997–1998)

Private Sector
Chief Technical Officer, Visual Molecules LLC (2008–2012)
Research Scientist, DASGroup, Inc. (1995–1997)
Research Intern, Concurrent Technologies Corporation (1991–1995)

Haverford College
Research Assistant, de Paula Group (1996)
Laboratory Assistant, General Chemistry (1996–1997)
Computer Laboratory Assistant (1993–1997)

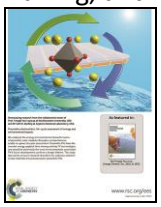
HONORS

University of Chicago Pinnacle of Education Award (2014)
R&D100 Award for SIS Lithography (2014)
Argonne Energy Slam Champion (April 2014)
Department of Energy Sustainability Award for *Sustainability Workshop for Middle School Teachers* at Argonne (September 2012; team award)
ACS Leadership Development Award (January 2010)
Glenn T. Seaborg Distinguished Fellowship (2003–2006)
AVS Morton M. Traum Surface Science Award (November 2002)
James Franck Institute Presentation Award (May 2002)
American Institute of Chemists Foundation Student Awardee (May 2001)
AVS Prairie Chapter Presentation Award (September 2000)
University of Chicago Departmental Presentation Award (March 2000)
Ninth Workshop on Surface Dynamics Best Presentation (June 1999)

PEER-REVIEWED PUBLICATIONS

1. Membrane materials for water purification: Design, development, and application, A. Lee, J.W. Elam, and S.B. Darling, submitted to *Environ. Sci. Water Tech.* **[Review]**
2. Linking group influences charge separation and recombination in all-conjugated block copolymer OPVs, J.W. Mok, Y.-H. Lin, K.G. Yager, A.D. Mohite, W. Nie, S.B. Darling, Y. Lee, E. Gomez, D. Gosztola, R.D. Schaller, and R. Verduzco, *Adv. Funct. Mater*. In Press.
3. Rational design of thermally stable, bicontinuous donor/acceptor morphologies with conjugated block copolymer additives, D. Kipp, J. Mok, J. Strzalka, S.B. Darling, V. Ganesan, and R. Verduzco, *ACS Macro Lett*. **4** (2015) 867-871.
4. Kinetically enhanced approach for rapid and tunable self-assembly of rod-coil block copolymers, C.-C. Ho, S.-J. Wu, S.-H. Lin, S.B. Darling, and W.-F. Su, *Macromol. Rapid Commun*. **36** (2015) 1329-1335. **[Cover Story]**

5. Perovskite photovoltaics: life-cycle assessment of energy and environmental impacts, J. Gong, S.B. Darling, and F. You, *Energy Environ. Sci*. **8** (2015) 1953-1968. **[Back cover Story]**



6. Kinetics for the sequential infiltration synthesis of alumina in poly(methyl methacrylate): An infrared spectroscopic study, M. Biswas, J.A. Libera, S.B. Darling, and J.W. Elam, *J. Phys. Chem. C*.

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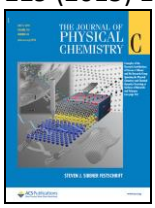
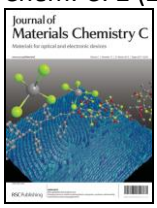


7. Characterizing the three-dimensional structure of block copolymers via sequential infiltration synthesis and scanning transmission electron tomography, T. Segal-Peretz, J. Winterstein, M. Doxastakis, A. Ramirez-Hernandez, M. Biswas, J. Ren, H.S. Suh, S.B. Darling, J.A. Liddle, J.W. Elam, J.J. de Pablo, N.J. Zaluzec, and P.F. Nealey, *ACS Nano* **9** (2015) 5333–5347.
8. L-Tryptophan on Cu(111): Engineering a molecular labyrinth driven by indole groups, E.N. Yitamben, A. Clayborne, S.B. Darling, and N.P. Guisinger, *Nanotechnology* **26** (2015) 235604.
9. New insight into the mechanism of sequential infiltration synthesis from infrared spectroscopy, M. Biswas, J.A. Libera, S.B. Darling, and J.W. Elam, *Chem. Mater*. **26** (2014) 6135-6141.
10. Visualization of hierarchical nanodomains in polymer/fullerene bulk heterojunction solar cells, J. Wen, D.J. Miller, W. Chen, T. Xu, L. Yu, S.B. Darling, and N.J. Zaluzec, *Microsc. Microanal*. **20** (2014) 1507-1513.
11. Polaron structure and transport in fullerene materials: Insights from first-principles calculations, K.M. Pelzer, M. Chan, S.K. Gray, and S.B. Darling, *J. Phys. Chem. C*. **118** (2014) 21785-21797.
12. Domestic and overseas manufacturing scenarios of silicon-based photovoltaics: Life cycle energy and environmental comparative analysis, D. Yue, F. You, and S.B. Darling, *Solar Energy* **105** (2014) 669-678. [Corrigendum: *Solar Energy* **107** (2014) 380]
13. Isoindigo-based copolymers for high-efficiency polymer solar cells, C.-C. Ho, C.-A. Chen, C.-Y. Chang, S.B. Darling, and W.-F. Su, *J. Mater Chem. A.* **2** (2014) 8026-8032.
14. π-Conjugated gradient copolymers suppress phase separation and improve stability in bulk heterojunction solar cells, E. Palermo, S.B. Darling, and A.J. McNeil, *J. Mater. Chem. C*. **2** (2014) 3401-3406.
15. Process-controlled multiscale morphologies in metal-containing block copolymer thin films, M. Ramanathan and S.B. Darling, *J. Nanosci. Nanotechnol*. **14** (2014) 2653-2657.
16. Improved conductive atomic force microscopy measurements on organic photovoltaic materials via mitigation of contact area uncertainty, M. Nikiforov and S.B. Darling, *Prog. Photovolt.: Res. Appl*. **21** (2013) 1433-1443.
17. Additives for morphology control in high-efficiency organic solar cells, H.-C. Liao, C.-C. Ho, C.-Y. Chang, M.-H. Jao, S.B. Darling, and W.-F. Su, *Materials Today* **16** (2013) 326-336. **[Invited Review]**
18. The case for organic photovoltaics, S.B. Darling and F. You, *RSC Adv*. **3** (2013) 17633-17648.
19. Lanthanides: New metallic cathode materials for organic photovoltaic cells, M.P Nikiforov, J. Strzalka, Z. Jiang, and S.B. Darling, *Phys. Chem. Chem. Phys*. **15** (2013) 13052-13060.
20. Nanofabrication with metallopolymers – Recent developments and future perspectives, M. Ramanathan and S.B. Darling, *Polym. Int.* **62** (2013) 1123-1134. [Review]

21. Model compounds based on poly(p-phenylenevinyleneborane) and terthiopene: Investigating the p–n junction in diblock copolymers, D.M. Hinkens, Q. Chen, M.K. Siddiki, D. Gosztola, M.A. Tapsak, Q. Qiao, M. Jeffries-EL, and S.B. Darling, *Polymer* **54** (2013) 3510-3520.
22. Synthesis and crystallinity of conjugated block copolymers prepared by click chemistry, K.A. Smith, D. Dement, J. Strzalka, S.B. Darling, and R. Verduzco, *Macromolecules* **46** (2013) 2636-2645.
23. Detection and role of trace impurities in high-performance organic solar cells, M.P. Nikiforov, B. Lai, W. Chen, S. Chen, R.D. Schaller, J. Strzalka, J. Maser, and S.B. Darling, *Energy Environ. Sci.* **6** (2013) 1513-1520. **[Cover Story]**

24. Emerging trends in metal-containing block copolymers: Synthesis, self-assembly, and nanomanufacturing applications, M. Ramanathan, Y.-C. Tseng, K. Ariga, and S.B. Darling, *J. Mater Chem. C*. **1** (2013) 2080-2091. **[Cover Story]**



25. Synthesis and photovoltaic effect in dithieno [2,3-d:2',3'-d']benzo[1,2-b:4,5-b']dithiophene-based conjugated polymers, H.J. Son, L. Lu, W. Chen, T. Xu, T. Zheng, B. Carsten, J. Strzalka, S.B. Darling, L.X. Chen, and L. Yu, *Adv. Mater*. **25** (2013) 838-843.
26. Concurrent quantitative conductivity and mechanical properties measurements of organic photovoltaic materials using AFM, M.P. Nikiforov and S.B. Darling, *J. Vis. Exp*. **71** (2013) e50293.
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28. Deciphering the uncertainties in life cycle energy and environmental analysis of organic photovoltaics, D. Yue, P. Khatav, F. You, and S.B. Darling, *Energy Environ. Sci*. **5** (2012) 9163-9172.
29. Vacuum-deposited small-molecule organic solar cells with high power conversion efficiencies by judicious molecular design and device optimization, Y.-H. Chen, Y.-L. Lin, C.-W. Lu, Z.-Y. Huang, H.-W. Lin, F. Lin, P.-H. Wang, Y.-H. Liu, K.-T. Wong, J. Wen, D.J. Miller, and S.B. Darling, *J. Am. Chem. Soc*. **134** (2012) 13616-13623.
30. Supramolecular conjugated block copolymers, Y.-H. Lin, S.B. Darling, M.P. Nikiforov, J. Strzalka, and R. Verduzco, *Macromolecules* **45** (2012) 6571-6579.
31. Morphology characterization in organic and hybrid photovoltaics, W. Chen, M.P. Nikiforov, and S.B. Darling, *Energy Environ. Sci*. **5** (2012) 8045-8074. **[Invited Review]**
32. Enhanced lithographic imaging layer meets semiconductor manufacturing specification a decade early, Y.-C. Tseng, A.U. Mane, J.W. Elam, and S.B. Darling, *Adv. Mater*. **24** (2012) 2608-2613.

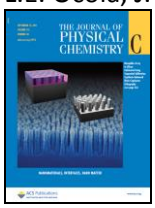
33. Ultrathin molybdenum oxide anode buffer layer for organic photovoltaic cells formed using atomic layer deposition, Y.-C. Tseng, A.U. Mane, J.W. Elam, and S.B. Darling, *Sol. Eng. Mater. Sol. Cells*. **99** (2012) 235-239.

34. Optimizing luminescent solar concentrator design, H. Hernandez-Noyola, D.H. Potterveld, R.J. Holt, and S.B. Darling, *Energy Environ. Sci*. 5 (2012) 5798-5802. **[Cover Story]**

35. Etch properties of resists modified by sequential infiltration synthesis, Y.-C. Tseng, Q. Peng, L.E. Ocola, D.A. Czaplewski, J.W. Elam, and S.B. Darling, *J. Vac. Sci. Technol. B.* **29** (2011) 06FG01.

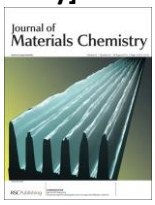
36. Hierarchical nanomorphologies promote exciton dissociation in polymer/fullerene bulk heterojunction solar cells, W. Chen, T. Xu, F. He, W. Wang, C. Wang, J. Strzalka, Y. Liu, J. Wen, D.J. Miller, J. Chen, K. Hong, L. Yu, and S.B. Darling, *Nano Letters* **11** (2011) 3707-3713.

37. Enhanced block copolymer lithography using sequential infiltration synthesis, Y.-C. Tseng, Q. Peng, L.E. Ocola, J.W. Elam, and S.B. Darling, *J. Phys. Chem. C* **115** (2011) 17725–17729. **[Cover Story]**



38. Assumptions and the levelized cost of energy for photovoltaics, S.B. Darling, F. You, T. Veselka, and A. Velosa, *Energy Environ. Sci.* **4** (2011) 3133-3139. **[Cover Story]**

39. Enhanced polymeric lithography resists via sequential infiltration synthesis, Y.-C. Tseng, Q. Peng, L. Ocola, D. Czaplewski, J.W. Elam, and S.B. Darling, *J. Mater. Chem*. **21** (2011) 11722-11725. **[Cover Story]**



40. A route to nanoscopic materials via sequential infiltration synthesis on block copolymer templates, Q. Peng, Y.-C. Tseng, S.B. Darling, and J.W. Elam, *ACS Nano* **5** (2011) 4600-4606.

41. Optoelectronic properties and charge transfer in donor-acceptor all-conjugated diblock copolymers, I. Botiz, R.D. Schaller, R. Verduzco, and S.B. Darling, *J. Phys. Chem. C*. **115** (2011) 9260-9266.

42. Mesoscale morphologies in polymer thin films, M. Ramanathan and S.B. Darling, *Prog. Polym. Sci*. **36** (2011) 793-812. [Review]

43. Tetrathienoanthracene-based copolymers for efficient solar cells, F. He, W. Wang, W. Chen, T. Xu, S.B. Darling, J. Strzalka, Y. Liu, and L. Yu, *J. Am. Chem. Soc*. **133** (2011) 3284-3287.

44. Block copolymer lithography as a facile route for developing nanowire-like arrays, M. Ramanathan, S.B. Darling, and D.C. Mancini, *Adv. Sci. Lett.* **4** (2011) 437-441.

45. Polythiophene-*block*-polyfluorene and polythiophene-*block*-poly(fluorene-*co*-benzothiadiazole): Insights into the self-assembly of all-conjugated block copolymers, R. Verduzco, I. Botiz, D.L. Pickel, S.M. Kilbey II, K. Hong, E. Dimasi, and S.B. Darling, *Macromolecules* **44** (2011) 530-539.

46. Density functional theory as a guide for the design of pyran dyes for dye-sensitized solar cells, C. Johnson, S.B. Darling, and Y. You, *Monatshefte für Chemie* **142** (2011) 45-52.

47. Self-assembled monolayer-modified block copolymers for chemical surface nanopatterning, N.A. Yufa, S. Fronk, S.J. Rosenthal, S.B. Darling, and S.J. Sibener, *Mater. Chem. Phys.* **125** (2011) 382-385.

48. Nanoscopic patterned materials with tunable dimensions via atomic layer deposition on block copolymers, Q. Peng, Y.-C. Tseng, S.B. Darling, and J.W. Elam, *Adv. Mater*. **22** (2010) 5129-5133.

49. Block copolymer nanostructures for technology, Y.-C. Tseng and S.B. Darling, *Polymers* **2** (2010) 470-489. **[Invited Review]**

50. Electrolyte effects on electron transport and recombination in ZnO nanorods for dye sensitized solar cells, Y. Xie, P. Joshi, S.B. Darling, Q. Chen, T. Zhang, D. Galipeau, and Q. Qiao, *J. Phys. Chem. C*. **114** (2010) 17880-17888.

51. Asymmetric morphology from an organic/organometallic block copolymer, M. Ramanathan, J. Strzalka, J. Wang, and S.B. Darling, *Polymer* **51** (2010) 4663-4666.

52. Nanopatterning of ultrananocrystalline diamond (UNCD) thin films via block copolymer lithography, M. Ramanathan, S.B. Darling, A.V. Sumant, and O. Auciello, *J. Vac. Sci. Technol*. *A* **28** (2010) 979-983.

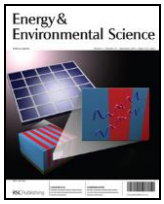
53. Optoelectronics using block copolymers, I. Botiz and S.B. Darling, *Materials Today* **13** (2010) 42-51. **[Invited Review]**

54. Minimizing lateral domain collapse in etched poly(3-hexylthiophene)-*block*-polylactide thin films for improved optoelectronic performance, I. Botiz, A.B.F. Martinson, and S.B. Darling, *Langmuir* **26** (2010) 8756-8761.

55. Self-assembly of cylinder-forming block copolymers on ultrananocrystalline diamond (UNCD) thin films for lithographic applications, M. Ramanathan, S.B. Darling, A.V. Sumant, and O. Auciello, ed. by P. Bergonzo, J.E. Butler, R.B. Jackman, K.P. Loh, and M. Nesladek (*Mater. Res. Soc. Symp. Proc.*, **Volume 1203**, 2010) 1203-J17-15.

56. Crossover behavior in hydrogen sensing mechanism for palladium ultrathin films, M. Ramanathan, G. Skudlarek, H.-H. Wang, and S.B. Darling, *Nanotechnology* **21** (2010) 125501.

57. Block copolymers for photovoltaics, S.B. Darling, *Energy Environ. Sci.* **2** (2009) 1266-1273. **[Invited Review, Cover Story]**



58. Thickness dependent hierarchical meso/nano scale morphologies of a metal-containing block copolymer thin film induced by hybrid annealing and their pattern transfer abilities, M. Ramanathan and S.B. Darling, *Soft Matter* **5** (2009) 4665-4671. **[Cover Story]**

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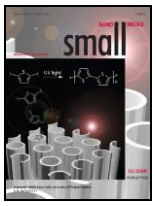
60. Rational design of nanostructured hybrid materials for photovoltaics, I. Botiz and S.B. Darling, in *Active Polymers*, ed. By A. Lendlein, V. Prasad Shastri, K. Gall (Mater. Res. Soc. Symp. Proc. **Volume 1190**, Warrendale, PA, 2009) 1190-NN03-20.

61. Modifying metal-polymer nanostructures using UV exposure, N.A. Yufa, S. Fronk, S.B. Darling, R. Divan, W. Lopes, and S.J. Sibener, *Soft Matter* **5** (2009) 1683-1686.

62. Simple orientational control over block copolymer domains for etch mask applications, M. Ramanathan, E. Nettleton, and S.B. Darling, *Thin Solid Films* **517** (2009) 4474-4478.

63. Improved hybrid solar cells via in situ UV-polymerization, S. Tepavcevic, S.B. Darling, N.M. Dimitrijevic, T. Rajh, and S.J. Sibener, *Small* **5** (2009) 1776-1783. **[Cover Story]**



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65. The role of metal nanoparticles and nanonetworks in alloy degradation, Z. Zeng, K. Natesan, Z. Cai, and S.B. Darling, *Nature Mat.* **7** (2008) 641-646.

66. Isolating the effect of torsional defects on mobility and band gap in conjugated polymers, S.B. Darling, *J. Phys. Chem. B* **112** (2008) 8891-8895.

67. Directing the self-assembly of block copolymers, S.B. Darling, *Prog. Polym. Sci.* **32** (2007) 1152-1204. **[Invited Review]**

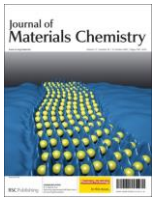
68. Hybrid nanomaterials from hierarchical self-assembly of nanoparticles and clusters on diblock copolymer films, S.B. Darling, A. Hoffmann, N.A. Yufa, S.D. Bader, and S.J. Sibener *PMSE Preprints* **96** (2007) 31-32.

69. Tuning metal surface diffusion on diblock copolymer films, S.B. Darling and A. Hoffmann, *J. Vac. Sci. Technol. A* **25** (2007) 1048-1051. [Selected for July 16, 2007 issue of *Virtual Journal of Nanoscale Science & Technology*]

70. Mechanism for hierarchical self-assembly of nanoparticles on scaffolds derived from block copolymers, S.B. Darling, *Surf. Sci.* **601** (2007) 2555-2561. **[Invited]**

71. Self-Assembly of magnetic and semiconducting nanoparticles on modified diblock copolymer templates, N.A. Yufa, A.L. Cisse, S.B. Darling, S.D. Bader, P. Guyot-Sionnest, and S.J. Sibener, In *Assembly at the Nanoscale - Toward Functional Nanostructured Materials*, ed. by C.S. Ozkan, F. Rosei, G.P. Lopinski, and Z.L. Wang (*MRS Symp. Proc.* **910E**, Warrendale, PA, 2006) 0901-Ra09-06.

72. A materials chemistry perspective on nanomagnetism, S.B. Darling and S.D. Bader, *J. Mater. Chem*. **15** (2005) 4189-4195. **[Invited, Cover Story]**



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74. Guiding polymers to perfection: Macroscopic alignment of nanoscale domains, D. Sundrani, S.B. Darling, and S.J. Sibener, *Nano Letters* **4** (2004) 273-276.

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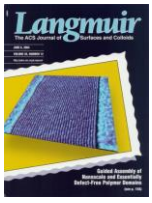
76. Hierarchical assembly and compliance of nanoscale polymer domains in confinement, D. Sundrani, S.B. Darling, and S.J. Sibener, *Langmuir* **20** (2004) 5091-5099. **[Cover Story]**



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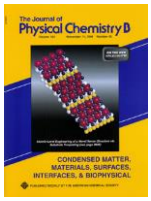

Patents and Intellectual Property

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2. Small-core/large-shell semiconductor nanocrystals for high-performance luminescent solar concentrators and wavelength downshifting, M. Pelton, E. Shevchenko, S.B. Darling, R. Holt, and D. Potterveld, US Patent Application 13/711,383.
3. Ordered nanoscale domains by infiltration of block copolymers, S.B. Darling, J.W. Elam, Q. Peng, and Y.-C. Tseng, US Patent Application 13/209,190.
4. Sequential infiltration synthesis for advanced lithography, S.B. Darling, Y.-C. Tseng, Q. Peng, and J.W. Elam, US Patent 8,980,418 B2; March 17, 2015.
5. Spatially resolved imaging of opto-electrical property variations, M. Nikiforov, S.B. Darling, O. Suzer, J.R. Guest, and A. Roelofs, US Patent 8,836,944; Sept. 16, 2014.
6. Hybrid solar cells via UV-polymerization of polymer precursor, S.B. Darling, S. Tepavcevic, T. Rajh, N.M. Dimitrijevic, and S.J. Sibener, US Patent 8,269,100; Sept. 18, 2012.
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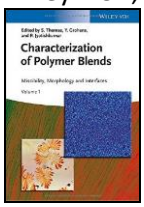
Books

1. How to Change Minds about Our Changing Climate, Seth B. Darling and Douglas L. Sisterson, New York: The Experiment, 2014. (ISBN-10: 1615192239)

Trade & Non-Peer-Reviewed Publications

1. Climate disruption: An infallible truth, S.B. Darling, *The Laboratory*, June 22, 2015. [Blog]
2. Optical Microscopy (Polarized, Interference and Phase-Contrast Microscopy) and Confocal Microscopy , M. Ramanathan and S.B. Darling, in *Characterization of Polymer Blends: Miscibility, Morphology and Interface*, Eds.: S. Thomas, Y. Grohens, P. Jyotishkumar, Weinheim, Germany: Wiley-VCH, 2015. [Book chapter, **Invited, Cover**]



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5. A simple and inexpensive encapsulation route for high throughput characterization of organic photovoltaic devices, M.P. Nikiforov and S.B. Darling, in *Proc. SPIE* **8477** (2012) 84771J.
6. Optimum Luminescent Solar Concentrators, H. Hernandez-Noyola, D.H. Potterveld, R. Holt, S.B. Darling, and G. Crabtree, *Bull. Amer. Phys. Soc*. **56** (2011) 71.
7. Making complex nanomaterials with molecular stencils, S.B. Darling, Q. Peng, Y.-C. Tseng, and J.W. Elam, *SPIE Newsroom*, January 20, 2011.
8. Back Scatter: Mixing up surface properties, S.B. Darling, *Physics Today* **62** (2009) 88.
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2. Perovskite solar technology shows quick energy returns, P. Marathe, *Argonne press release*, July 17, 2015; also *phys.org*, July 21, 2015.
3. Cover Story, T. Skilling, *WGN9 News*, June 29, 2015. [TV interview]

4. Milwaukee dives into water tech, Chicago just getting feet wet, M. Caro, *Chicago Tribune*, June 12, 2015.
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6. The Promise of Perovskites, *ChemViews Magazine*, D. Bradley, May 5, 2015.
7. Morning news, *KCBS*, April 16, 2015. [radio interview]
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12. Argonne joins in the fun at Northern Illinois University's popular STEMfest, A. Mitchell, *Argonne press release*, November 4, 2014.
13. Locus Focus, *KBOO*, September 29, 2014. [radio interview]
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20. Organic solar cells reach manufacturing milestone, W. Bergius, *Chemistry World*, June 19, 2014.
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22. Making Life-Cycle Analysis Matter to the Global Solar PV Supply Chain, J. Montgomery, *Renewable Energy World*, June 5, 2014.
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46. 10 Questions for a Nanoscientist, L. Lerner, *DOE Energy.gov blog*, September 8, 2011.
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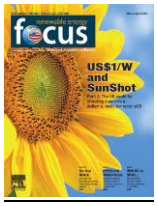

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75. New process for generating cost of solar power, N. Lew, *Cooler Planet*, February 8, 2011
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78. 2010 NSF International Science and Engineering Visualization Challenge, First Place in Photography, S.B. Darling and S.J. Sibener.
79. A Novel Technique to Grow Materials for Solar Cell Applications, Frost & Sullivan, *Advanced Coatings and Surface Technology Alert*, December 2010.
80. PV Innovations – Not Quite Sci-Fi Anymore, J. Laird, *Renewable Energy Focus USA*, December 2010.
81. Geek-Up: Molecular Stencils, GRETINA and Trapped Antimatter, N. Kumar, *DOE EnergyBlog*, November 19, 2010.
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84. Molecular 'stencils' open up new possibilities for solar energy, *Nanowerk News*, November 15, 2010; also *Solar Novus Today*, November 16, 2010; *Future Photovoltaics*, November 16, 2010; and *PhysOrg.com*, November 16, 2010.
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88. pARTicles, B. O'Neill, *University of Chicago Magazine*, May/June 2010.
89. Argonne offers integrated approach, G. Boas, *Photonics Spectra*, May 2010.
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94. Nanotubular belles, D. Snieckus, *Recharge News*, November 20, 2009.
95. Argonne 'homegrown' hybrid solar cell aims for low-cost power, *PhysOrg.com*, November 10, 2009; also Argonne press release.
96. Argonne Touts Hybrid PV Cell with "Homegrown" Polymer, J. Montgomery, *Renewable Energy World*, November 16, 2009; also *Photovoltaics World*, November 12, 2009; highlighted in *PV Times*, November 12 issue.
97. Everything under the sun: Refining solar cell technology at Argonne, J. Sagoff, *Argonne Now*, Fall 2009. **[Cover Story]**

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100. AVS 55th International Symposium Art Zone, 2nd place, November 2008.
101. Solar Cells Go Organic, *LiveScience.com*, October 21, 2008.
102. SDSU Postdoctoral Research Assistant Receives Award from the National Science Foundation, South Dakota State University press release, September 2, 2008.
103. Small is Beautiful, S. Rana, *Flanders Today*, May 14, 2008.
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FUNDING AWARDS

Department of Homeland Security / Coast Guard; "Reusable, Environmentally Benign Absorbent Foams for Oil Spill Pollution Mitigation"; with J. Elam (2015–2016)

NSF Division Of Human Resource Development; "Developing a Model of Solar Energy Performance"; with L. Bosman (2014–2016)

NASA Innovations in Climate Education-Tribal (NICE-T) Program; "A Decision Support System to Analyze, Compare, Simulate and Evaluate Expected Performance Outcomes of Different PV Panels Installed in the U.S. Midwest, Providing Recommendations Based on User Inputs"; with L. Bosman and W. Otieno (2014–2017)

Argonne-University of Chicago-Ben Gurion University Water Research Initiative; "Self-Assembled Functional Membranes for Filtration and Photocatalytic Water Treatment"; with J. Elam and R. Bitton (2013–2015)

NSF Chemical, Bioengineering, Environmental, and Transport Systems (CBET); "Block Copolymer Compatibilizers for Controlled Morphology and Interfacial Properties in Polymer-Fullerene Blends"; with R. Verduzco and V. Ganesan (2013–2016)

EPA Tribal ecoAmbassador Program; "Upgrade to Energy Efficient Appliances or Invest in Alternative Energy Sources?"; with L. Bosman (2013–2014)

Argonne Technology Maturation and Commercialization Program; "Sequential Infiltration Synthesis for Lithography"; with J.W. Elam (2012–2013)

Taiwan National Science Council Dragon Gate Program; "Morphology and Interface Investigation of Materials and Devices for Bulk Heterojunction Solar Cells"; with W.-F. Su and L.-Y. Wang (2012–2014)

Institute for Sustainability and Energy at Northwestern; "Life Cycle Assessment of Organic Photovoltaic Cells"; with F. You (2012)

Shell Center for Sustainability; "High Performance Polymer Photovoltaics"; with R. Verduzco (2011–2012)

DOE Office of Electricity; Solar Resource Focus Team for "Study of Energy Zones in the Eastern Interconnection" (2011–2012)

Illinois State Tollway Authority; "Midwest Photovoltaics Analysis Facility" (2011)

University of Chicago-Argonne Strategic Collaborative Initiative "Chain Conformation, Aggregation, and Miscibility in Polymer/Fullerene Blends for Photovoltaics"; with Luping Yu (2010–2012)

Argonne National Laboratory Strategic LDRD "Optimization of Luminescent Solar Concentrators" (2009–2011)

NSF-Materials Science and Engineering Center at the University of Chicago; Co-PI for IRG entitled "Rational Design of Nanoparticle and Molecule-Based Functional Materials" (2008–2013)

Argonne National Laboratory Director's Competitive LDRD "Hedvall Effect Catalysis Studies of Size-Selected Magnetic Nanoclusters"; with J. Greeley, S. Vajda, and M. Knickelbein (2007–2010)

Argonne National Laboratory Director's Competitive LDRD "Hybrid Block Copolymer-Nanocrystal Material for Efficient Photovoltaics" (2007–2010)

Argonne National Laboratory Strategic LDRD "Novel Hybrid Nanomaterials via Uniting Top-Down and Bottom-Up Assembly Methods" (2006–2009)

Argonne National Laboratory Strategic LDRD "Nanoscale Materials Synthesis and Self-Assembly"; with S.D. Bader (2004–2006)

Argonne National Laboratory Strategic LDRD "Adaptive Nanoscale Self-Assembly"; with S.D. Bader (2003–2004)

Concurrent Technologies Corporation Seed R&D "$SrTiO_3$ Films for Naval Surface Protection" (1994–1995)

Postdoctoral Advisees

Sanja Tepavcevic, with Steven Sibener, 2006–2008 (Argonne National Laboratory)
Muruganathan Ramanathan, 2007–2010 (First Solar)
Ioan Botiz, 2008–2010 (University of Freiburg)
Diane Hinkens, with Qiquan Qiao; NSF ACC Fellow, 2008–2011 (Bloomsburg University)
Yu-Chih Tseng, 2009–2011 (CANMET Materials Technology Laboratory)
Wei Chen, 2010–2012 (Institute for Molecular Engineering)
Maxim Nikiforov, 2011–2013 (HGST)
Ji Sun Moon, 2012–2013 (Samsung)
Chun-Chih Ho, with Wei-Fang Su; 2013–2014
Mahua Biswas, with Jeff Elam; 2013–2015
Anna Lee, 2014–2015
Kenley Pelzer, with Stephen Gray; 2014–
Muge Acik, 2015–
Ed Barry, 2015–

Student Advisees

Elizabeth Nettleton, Summer 2007 (UT-Austin PhD)
Grant Skudlarek, 2008–2009 (Carnegie Mellon BS)
Rade Kuljic (with Mitra Dutta, Univ. of Illinois Chicago); 2010–2011 (Caterpillar Inc.)
Naga Ravikanth Putrevu (with Ishaque Khan, Illinois Institute of Technology); 2011–2013 (Intel)
Maksym Plakhotnyuk (with Mitra Dutta, Univ. of Illinois Chicago); Spring 2012
Sidra Farid (with Mitra Dutta, Univ. of Illinois Chicago); 2012–2013
Shripriya Poduri (with Mitra Dutta, Univ. of Illinois Chicago); 2012–2013
Shoubin Xu (Sichuan University); 2012–2013
Shang-Jung Wu, Summer 2013 (NTU PhD)
Luísa Luna, Summer 2013 (LANXESS Elastomeros)
Kenley Pelzer (with Greg Engel, Univ. of Chicago); 2013–2014 (Argonne)
Lisa Bosman (with Wilkistar Otieno, Univ. Of Wisconsin-Milwaukee); 2013–2014 (College of Menominee Nation)
Michael Glinski (Northwestern BS), 2014–2015
Marjorie Segovia (Univ. of Chile), 2015–2016

Other Advisees

Lt. Col. Eric Forsythe (Air Force Fellow), 2012–2013

WORKSHOPS AND SYMPOSIA

Solar Energy Capture & Conversion at the Nanoscale, 2014 Argonne Users Meeting, with M. Chan and S.K. Gray (May 14, 2014)
MRS National Meeting workshop on Hierarchically Structured Materials for Energy Conversion and Storage; with J.H. Moon, P.-X. Gao, and C.-Y. Nam (November 2012)
AVS Prairie Chapter Meeting; with Julio Soares and Jerry Moore (September 1, 2011)
Current Challenges and Emerging Areas in Soft Matter; Oak Ridge, TN; Panelist (July 21-22, 2011)
TechConnect World 2011 (Nanotech Conference & Expo); Fabrication Committee (June 13-16, 2011)
Physics of Energy Storage Materials, APS March Meeting Focus Topic; with Don Siegel and Gholam-Abbas Nazri (March 2011)
70th Physical Electronics Conference; Organizing Committee member (June 15-18, 2010)
Workshop on Nanoscale Materials for Solar Energy Utilization, CNM Users' Meeting (October 6, 2009)
AVS Prairie Chapter Meeting; with Paul Lyman (June 9, 2008)
AVS Prairie Chapter Meeting; with Jerry Moore (June 12, 2006)
Finding a Job after Your Postdoc; with Brian Reiss (November 15, 2005)
Designing Research Budgets; with Brian Reiss & Geralyn Becker (April 25, 2005)
Building Visibility for Postdocs at Argonne and Beyond; with Michelle Arora & Brian Reiss (February 9, 2005)
Successful LDRD Writing for Postdocs; with Michelle Arora & Brian Reiss (January 12, 2005)
APS/CNM Users' Meeting Nanomagnetism Workshop; with Dongqi Li (May 4, 2004)

INVITED PRESENTATIONS

EPRI Generation Sector Program Advisory Meeting; Chicago, IL (August 2015)
The Real Truth about Health 2015; Orlando, FL (May 2015)
E-MRS Spring 2015 Meeting; Lille, France (May 2015)
Utility Solar Conference 2015; San Diego, CA (April 2015)
QEERI International Computational Workshop on Solar Energy; Doha, Qatar (April 2015)
ACS National Meeting; Denver, CO (March 2015)
MRS National Meeting; Boston, MA (December 2014)
Ameren Corporation Photovoltaics Workshop; St. Louis, MO (November 2014)
Postdoctoral Research and Career Symposium; Argonne, IL; **Keynote address** (October 2014)
2014 International Symposium on Materials for Enabling Nanodevices (ISMEN2014); Tainan, Taiwan (September 2014)
ACS National Meeting; San Francisco, CA (August 2014)
2014 IUMRS-ICEM (International Union for Materials Research Societies - International Conference on Electronic Materials); Taipei, Taiwan; **Plenary talk** (June 2014)
National Taiwan University; Taipei, Taiwan (June 2014)
Renewable Energy Center of the Nuclear Research Institute; Taipei, Taiwan (June 2014)
University of Tennessee College of Engineering; Knoxville, TN (March 2014)
ACS National Meeting; Dallas, TX (March 2014)
University of Chicago, Institute for Molecular Engineering; Chicago, IL (February 2014)
2014 AAAS Annual Meeting; Chicago, IL (February 2014)
Optics & Photonics Taiwan, International Conference (OPTIC 2013); Chung-Li, Taiwan (December 2013)
ACS National Meeting; New Orleans, LA (April 2013)

Renewable Energy: From the research in basic science to technological application and innovation; Santiago, Chile (April 2013)
APS March Meeting; Baltimore, MD (March 2013)
University of Illinois Department of Earth and Environmental Sciences colloquium; Chicago, IL (February 2013)
Loyola University Department of Chemistry; Chicago, IL (January 2013)
University of Michigan Center for Solar and Thermal Energy Conversion; Ann Arbor, MI (October 2012)
University of Illinois at Chicago Energy Initiative; Chicago, IL (October 2012)
Advanced Research Workshop on Recent Trends and Prospects for Renewable Energy; Tashkent, Uzbekistan; **Keynote address** (October 2012)
Challenges in Photovoltaic Science, Technology, and Manufacturing: A workshop on the role of theory, modeling, and simulation (TMS); Lafayette, IN (August 2012)
National Cheng Kung University; Tainan, Taiwan (May 2012)
APS Users Meeting 2012; Argonne, IL (May 2012)
ACS National Meeting; Adamson Award symposium; San Diego, CA (March 2012)
ACS National Meeting; San Diego, CA (March 2012)
Smart Coatings 2012; Orlando, FL (February 2012)
Purdue University Department of Physics Colloquium; Lafayette, IN (February 2012)
Physical Society of the Republic of China; Chiayi, Taiwan (January 2012)
2011 International Symposium of Energy Technology and Strategy; Tainan, Taiwan; **Keynote address** (November 2011)
2011 ALS User Meeting; Berkeley, CA (October 2011)
Organic Photovoltaics 2011; Philadelphia, PA (September 2011)
ACS National Meeting; Denver, CO (August 2011)
Lawrence Berkeley National Laboratory Molecular Foundry; Berkeley, CA (August 2011)
Fermilab Colloquium; Batavia, IL (August 2011)
World Presidents' Organization; Argonne, IL (May 2011)
Science Careers in Search of Women Conference; Argonne, IL (April 2011)
ANSER Center colloquium; Evanston, IL (April 2011)
International School & Symposium on Multifunctional Molecule-Based Materials 2011; Argonne, IL (March 2011)
Bar Ilan University-Argonne Workshop; Argonne, IL (October 2010)
Argonne Math and Computer Science Division; Argonne, IL (September 2010)
Michigan State University conference on Complex Materials for Energy Applications; East Lansing, MI (June 2010)
Purdue University Department of Chemical Engineering; Lafayette, IN (May 2010)
Illinois Institute of Technology Department of Chemistry; Chicago, IL (April 2010)
Physical Society of the Republic of China; Tainan, Taiwan (February 2010)
Joint Argonne-Taiwan Workshop; Tainan, Taiwan (February 2010)
Yale University Department of Chemical Engineering; New Haven, CT (December 2009)
AVS National Meeting; San Jose, CA (November 2009)
DEP Summer Seminar; Argonne, IL (July 2009)
Brookhaven National Laboratory Center for Functional Nanomaterials; Upton, NY (May 2009)
DOE Review of LDRD; Argonne, IL (May 2009)
Northwestern-Argonne Workshop on Energy Supply; Argonne, IL (April 2009)
Plextronics, Inc.; Pittsburgh, PA (April 2009)
Postdoctoral Research Symposium [Plenary Keynote]; Argonne, IL (September 2008)
DEP Nanoscience Workshop; Argonne, IL (July 2008)

South Dakota State University Department of Electrical Engineering; Brookings, SD (April 2008)
DEP Nanoscience Workshop; Argonne, IL (July 2007)
Westmont Public Library, Westmont, IL (December 2006)
DEP Nanoscience Workshop; Argonne, IL (July 2006)
International Conference on Nanostructures Self-Assembling; Aix-en-Provence, France (July 2006)
APS & CNM 2006 Users Meeting Plenary Session; Argonne, IL (May 2006)
University of California at Davis Department of Chemical Engineering & Materials Science; Davis, CA (February 2006)
Argonne Center for Nanoscale Materials; Argonne, IL (January 2006)
University of Pittsburgh Department of Materials Science & Engineering; Pittsburgh, PA (January 2006)
University of Pittsburgh Department of Chemistry; Pittsburgh, PA (January 2006)
Haverford College Department of Chemistry; Haverford, PA (November 2005)
University of Illinois at Chicago Department of Chemistry; Chicago, IL (November 2005)
University at Buffalo Department of Chemistry; Buffalo, NY (November 2005)
Northwestern University Medill School of Journalism; Evanston, IL (March 2005)
ANL Materials Science Division Colloquium; Argonne, IL (June 2004)
DOE CSP Nanocomposite Magnets Meeting; Asilomar, CA (October 2003)
ANL Nanolunch Lecture Series; Argonne, IL (February 2003)

CONTRIBUTED PRESENTATIONS

ACS National Meeting; R. Verduzco presenter; Boston, MA (August 2015)
ALD 2015; J. Elam presenter; Portland, OR (June 2015)
ALD 2015; J. Emery presenter; Portland, OR (June 2015)
ECS National Meeting; K. Pelzer presenter; Chicago, IL (May 2015)
ACS National Meeting; R. Verduzco presenter; Denver, CO (March 2015)
Coherence 2014; J. Lal presenter; Argonne, IL (September 2014)
Nanoscale Spectroscopy and Nanotechnology 8 (NSS-8); Chicago, IL (July 2014)
ALD 2014; M. Biswas presenter; Kyoto, Japan (June 2014)
SPIE Advanced Lithography; M. Biswas presenter; San Jose, CA (February 2014)
AIChE National Meeting; Q. Peng presenter; San Francisco, CA (May 2013)
IIE Annual Conference; L. Bosman presenter; San Juan, Puerto Rico (May 2013)
SPIE Advanced Lithography; J. Elam presenter; San Jose, CA (February 2013)
MRS National Meeting; Boston, MA (October 2012)
MRS National Meeting; W. Chen presenter; Boston, MA (October 2012)
MRS National Meeting; M. Nikiforov presenter; Boston, MA (October 2012)
MS&T 2012 Conference; M. Nikiforov presenter; Pittsburgh, PA (October 2012)
AIChE National Meeting; R. Verduzco presenter; Pittsburgh, PA (October 2012)
Microscopy & Microanalysis; J.G. Wen presenter; Phoenix, AZ (August 2012)
15th International Congress on Thermal Analysis and Calorimetry; M.P. Nikiforov presenter; Osaka, Japan (August 2012)
SPIE Optics and Photonics 2012; M. Nikiforov presenter; San Diego, CA (August 2012)
American Conference on Neutron Scattering 2012; W. Chen presenter; Washington, DC (June 2012)
MRS National Meeting; Y.-C. Tseng presenter; San Francisco, CA (April 2012)
APS National Meeting; W. Chen presenter; Boston, MA (March 2012)
MRS National Meeting; M. Nikiforov presenter; Boston, MA (November 2011)
MRS National Meeting; W. Chen presenter; Boston, MA (November 2011)

AIChE National Meeting; Minneapolis, MN; J. Elam presenter (October 2011)
ACS National Meeting; R. Verduzco presenter; Denver, CO (August 2011)
EIPBN 2011; Y.-C. Tseng presenter; Las Vegas, NV (June 2011)
CNM Users Meeting; N. Putrevu presenter; Argonne, IL (April 2011)
APS National Meeting; H. Hernandez-Noyola presenter; Anaheim, CA (April 2011)
MRS National Meeting; W. Chen presenter; Boston, MA (December 2010)
AIChE Annual Meeting; R. Verduzco presenter; Salt Lake City, UT (November 2010)
AVS National Meeting; Albuquerque, NM (October 2010)
EIPBN 2010; M. Ramanathan presenter; Anchorage, AK (June 2010)
ACS National Meeting; San Francisco, CA (March 2010)
AVS National Meeting; M. Ramanathan presenter, San Jose, CA (November 2009)
Organic Photovoltaics X; D. Hinkens presenter, San Diego, CA (August 2009)
NSRC Contractors' Meeting; S. Sibener presenter, Annapolis, MD (June 2009)
MRS National Meeting; I. Botiz presenter, San Francisco, CA (April 2009)
EMC User Workshop; Z. Zeng presenter, Argonne, IL (November 2008)
AVS National Meeting; Boston, MA (October 2008)
ACS Midwest Regional Meeting; C. Johnson presenter, Kearney, NE (October 2008)
SXNS-10, 10th International Conference on Surface X-ray and Neutron Scattering; J. Lal presenter; Paris, France (July 2008)
APS National Meeting; New Orleans, LA (March 2008)
The Future of Nanotechnology; Ithaca, NY (June 2007)
France-U.S. Nanoscience Workshop; Argonne, IL (June 2007)
CNM Users Meeting 2007; Argonne, IL (May 2007)
ACS National Meeting; Chicago, IL (March 2007)
AVS National Meeting; San Francisco, CA (November 2006)
Arrott Fest; Argonne, IL (September 2005)
MRS National Meeting; San Francisco, CA (March 2005)
AVS National Meeting; Anaheim, CA (November 2004)
CNR Meeting; Argonne, IL (November 2004)
Argonne Nanoscience Workshop; Argonne, IL (July 2004)
DOE NanoSummit; Washington, DC (June 2004)
APS March Meeting 2004; Montreal, Canada (March 2004)
MRS National Meeting; Boston, MA (December 2003)
Self-Assembly Workshop in Biology, Chemistry, and Hard Materials; Argonne, IL (July 2003)
Argonne Postdoctoral Round Table; Argonne, IL (July 2003)
APS March Meeting 2003; Austin, TX (March 2003)
CNR Postdoctoral Workshop; Chicago, IL (February 2003)
AVS National Meeting; Denver, CO (November 2002); Traum Competition
CNR Meeting; Argonne, IL (September 2002)
Space Materials MURI Meeting; Chicago, IL (June 2002)
Physical Electronics Conference; Atlanta, GA (June 2002); Nottingham Competition
Magnetic Films Group Seminar; Argonne, IL (June 2002)
7th Annual James Franck Institute Symposium; Chicago, IL (May 2002)
ACS National Meeting; Chicago, IL (August 2001)
Museum of Science & Industry Seminar Series; Chicago, IL (June 2001)
AVS Prairie Chapter Spring Meeting; Evanston, IL (May 2001)
Gordon Research Conference on Chemical Reactions at Surfaces; Ventura, CA (February 2001)
University of Chicago Student Lecture Series; Chicago, IL (October 2000)

AVS Prairie Chapter Fall Meeting; Rosemont, IL (September 2000)
APS March Meeting 2000; Minneapolis, MN (March 2000)
AVS Prairie Chapter Fall Meeting; Chicago, IL (October 1999)
Ninth Workshop on Surface Dynamics; Charlottesville, VA (June 1999)
APS Centennial Meeting; Atlanta, GA (March 1999)
Eastern Regional Photosynthesis Conference; Martha's Vineyard, MA (September 1996)
ACS National Meeting; New Orleans, LA (March 1996)

PROFESSIONAL SOCIETIES AND SERVICE

AVS Prairie Chapter Chair (2010–2011)
AVS Prairie Chapter Vice-Chair (2008–2010)
AVS Prairie Chapter Executive Committee, Member (2003–2013)
American Chemical Society (1995–present)
American Physical Society (1999–present)
AVS Science & Technology Society (2002–present)
Materials Research Society (2003–present)
Sorter for APS March Meeting (2011 meeting)

Kohl Children's Museum Advisory Panel for "Powered by Nature", Member (2010–2011)
Museum of Science and Industry Advisory Panel for "Future Energy", Member (2011)
Clean Energy Challenge 2012, Student team mentor (2012)
Numerous (>100) presentations on energy to students (elementary and high school, college, grad school) and representatives from museums, foundations, governments, industry, academia, and the general public

Northwestern University-Argonne Early Career Investigator Award Selection Committee, Member (2015–present)
Institute for Molecular Engineering Faculty Recruitment Advisory Committee, Member (2011–2013)
Argonne Physical Sciences and Engineering Advisory Group, Member (2010–2011)
Argonne Energy Sciences and Engineering Advisory Group, Member (2009–2010)
Argonne Performance Evaluation Process Committee, Member (2007–2010)
CNM Nanoscience Colloquium Committee, (Founder and) Member (2007–2014)
Argonne Diversity & Inclusion Focus Group, Member (2012)
Argonne Sustainability Council, Member (2013–2014)
Argonne Director's Diversity & Inclusion Advisory Council, Member (2013–2015)
Argonne Working Group for Joint Center for Energy Secure Science & Policy (2014)
Argonne Review Team for Women and Minority Employee Concerns, Member (2015)

Scientific Reports (a *Nature* Group journal) Editorial Board, Member (2013–present)
Journal of Virtual Experiments (*JoVE*) Editorial Board, Member (2013–present)
Polymers Editorial Board, Member (2009–present)

Reviewer for Dutch Technology Foundation (2007)
Reviewer for ACS Petroleum Research Fund (2008, 2010, 2011, 2013, 2015)
Reviewer for Center for Functional Nanomaterials at Brookhaven (2008–2011)
Reviewer for DOE BES SBIR/STTR Program (2008)
Reviewer for DOE Solar SBIR/STTR Program (2009, 2010)

Reviewer and panelist for NSF Materials Processing and Manufacturing Program (2010)
Reviewer for DOE BES Materials Science and Engineering Division (2010, 2012, 2013)
Reviewer for Stanford Synchrotron Radiation Lightsource (SSRL) (2010, 2013, 2014)
Reviewer for Israeli Ministry of Science (2010)
Reviewer for Iowa Energy Center (2011, 2014)
Reviewer for Experimental Program to Stimulate Competitive Research (DOE EPSCoR) (2011)
Reviewer for Advanced Light Source "Approved Program" (AP) (2011)
Reviewer and panelist for NSF Nano Micro/Opto Electronics, Sensing & Information Systems (2011)
Reviewer and panelist for NSF ECCS Program (2012)
Reviewer for Research Foundation – Flanders (FWO) (2013, 2014)
Reviewer for FONDECYT National Research Funding Competition (Chile) (2013)
Reviewer for ARO (2014)
Reviewer for National Science Center, Poland (2014)
Reviewer for DOE Early Career Award (2015)
Reviewer for NSF CMI Program (2015)
Active reviewer for >30 journals and the occasional book